

Application No. 10/029,917
Amendment dated December 13, 2004
Reply to Office action of November 11, 2004

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

CLAIMS:

Please amend claims 1, 10, 19, 20, 28, and 43, and cancel claims 18 and 46, as follows:

1. (Currently Amended) An electronic navigational aid device with an automatic next turn page, comprising:

a processor;

a memory adapted to communicate to the processor, the memory having cartographic data and a route to a desired destination stored therein, the cartographic data including data indicative of thoroughfares of a plurality of types;

a display adapted to communicate with the processor and the memory and capable of displaying the cartographic data;

wherein the device processes travel along the route; and

wherein the device recognizes when the device is approaching a decision point in the route and provides to the display an overlay screen on top of any presently displayed screen, the overlay screen adapted to display a preview of the decision point, including a highlighted portion indicating a course to follow through the decision point, and the overlay screen displays motion of the device on the course through the decision point; and

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wherein insignificant detail is removed from the overlay screen at the decision point based on a set of criteria.

2. (Original) The device of claim 1, wherein the overlay screen includes cartographic data accurately depicting a geographic detail of the decision point.

3. (Original) The device of claim 2, wherein the geographic detail is provided on a magnified display scale in comparison to a display scale of the presently displayed screen.

4. (Original) The device of claim 3, wherein the magnified display scale is a dynamic display scale based on a road classification for a thoroughfare on which the device is currently traveling.

5. (Previously Presented) The device of claim 2, wherein the geographic detail includes the highlighted portion indicating the course to follow through the decision point.

6. (Original) The device of claim 2, wherein the geographic detail includes a marker centered at the decision point.

7. (Original) The device of claim 2, wherein the device operates on data indicative of a set of travel habits for the device on each of the plurality of types of thoroughfares and stores the travel habits in the memory.

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8. (Original) The device of claim 1, wherein the device regularly calculates the device's current position.
9. (Original) The device of claim 1, wherein the display continuously displays the device's position and uses audio instructions to navigate along the route as well as through a course at the decision point.
10. (Currently Amended) An electronic navigational aid device with an automatic next turn page, comprising:
 - a processor;
 - a memory in communication with the processor, the memory having cartographic data and a route stored therein to navigate from a beginning position to a desired destination, the cartographic data including data indicative of thoroughfares of a plurality of types, the route including a number of decision points;
 - a display in communication with the processor and capable of displaying the cartographic data, the route to the desired destination, and the device's position;
 - wherein the device processes travel along the route and provides location data to the display; and
 - wherein the device recognizes when the device is approaching a decision point in the route and provides to the display an overlay screen on top of any presently displayed screen, the overlay screen adapted to display a preview of the decision point, the overlay

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screen including cartographic data accurately depicting a geographic detail of the decision point, the geographic detail including a highlighted portion indicating a course to follow through the decision point, and wherein the overlay screen displays motion of the device on the course through the decision point; and

wherein the device is adapted to remove insignificant detail from the geographic detail at the decision point based on a set of criteria.

11. (Original) The device of claim 10, wherein the device dynamically provides the overlay screen to the display in advance of the decision point based on a set of criteria.

12. (Original) The device of claim 11, wherein the set of criteria includes any one or any combination of the following:

a classification of the thoroughfare on which the device is currently travelling;

a speed classification of the thoroughfare on which the device is currently travelling;

and

a speed at which the device is currently travelling.

13. (Original) The device of claim 10, wherein the geographic detail includes geographic detail not shown on the presently displayed screen.

14. (Original) the device of claim 10, wherein the device dynamically provides the overlay screen to the display when the device is at the decision point.

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15. (Original) The device of claim 14, wherein the geographic data in the overlay screen is static with the decision point centered in the overlay screen and the device dynamically displays a movement of the device on a course through the decision point.
16. (Previously Presented) The device of claim 10, wherein the device provides the overlay screen to the display for a fixed amount of time.
17. (Original) The device of claim 10, wherein the device is operable to provide in an overlay screen, the geographic detail of any decision point along the route upon receiving a preview request signal regardless of a content of the presently displayed screen.
18. (Cancelled)
19. (Currently Amended) The device of claim [[18]] 10, wherein the set of criteria includes any one or any combination of the following:
 - whether a cartographic detail is a thoroughfare; and
 - whether a nearby thoroughfare in the cartographic data intersects with a thoroughfare on which the device is currently traveling.

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20. (Currently Amended) A navigation aid method for negotiating decision points along a route, comprising:

detecting when a navigation device is approaching a decision point in a route;
calculating the device's current travel speed and position;
providing to a display an overlay screen on top of any presently displayed screen, the overlay screen adapted to display a preview of the decision point with a highlighted portion indicating a course to follow through the decision point; and
displaying motion of the device through the course on the overlay screen; and
wherein insignificant detail is removed from the overlay screen at the decision point
based on a set of criteria.

21. (Original) The method of claim 20, wherein providing the overlay screen includes providing in the overlay screen cartographic data accurately depicting a geographic detail of the decision point.

22. (Original) The method of claim 20, wherein providing the geographic detail includes providing the geographic detail in a dynamic magnified display scale in comparison to a display scale of the presently displayed screen based on a road classification for a thoroughfare on which the device is currently traveling.

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23. (Previously Presented) The method of claim 20, wherein providing the geographic detail includes providing the geographic detail with the highlighted portion indicating the course to follow through the decision point.

24. (Original) The method of claim 20, wherein the providing the geographic detail includes providing a marker centered at the decision point.

25. (Original) The method of claim 20, wherein calculating the device's current travel speed and position includes using a global positioning system.

26. (Original) The method of claim 20, wherein the display continuously displays the device's position and uses audio instructions to navigate along the route as well as through a course at the decision point.

27. (Original) The method of claim 20, wherein the method includes using a computer accessible medium having a set of computer executable instructions operable to perform the method.

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28. (Currently Amended) A navigation system for negotiating a decision point along a route, comprising:

a server having a processor and memory, the memory having cartographic data and a route stored therein to navigate from a beginning position to a desired destination, the cartographic data including data indicative of thoroughfares of a plurality of types, the route including a number of decision points;

wherein the server includes executable instructions stored thereon, the processor operable on the executable instructions to:

process travel of a navigation device along the route and provide location data;

recognize an approaching decision point in the route; and
trigger an overlay screen on the navigation device to display a preview of a decision point, the overlay screen including cartographic data accurately depicting a geographic detail of the decision point with a highlighted portion indicating a course to follow through the decision point, and the overlay screen displaying motion of the navigation device on the course through the decision point; and
wherein insignificant detail is removed from the geographic detail at the decision point based on a set of criteria.

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29. (Original) The navigation system of claim 28, wherein the system further includes:

a display in communication with the processor and capable of displaying the cartographic data, the route to the desired destination, the device's position, and the overlay screen on top of any presently displayed screen; and

a navigation device adapted to communicate with and retrieve navigation data from the server via a communication channel, wherein the navigation device includes a display adapted to display the overlay screen on top of any presently displayed screen.

30. (Original) The navigation system of claim 29, wherein the communication channel includes a wireless channel.

31. (Original) The navigation system of claim 29, wherein the system further includes a mass data storage adapted to store navigation data.

32. (Original) The navigation system of claim 29, wherein the server includes a processor adapted to respond to a request from the navigation device by performing calculations on the navigation data and transmitting results to the navigation device.

33. (Original) The navigation system of claim 29, wherein the navigation device adapted to communicate with and retrieve navigation data from the server using cellular communication technology.

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34. (Previously Presented) The navigation system of claim 28, wherein the set of executable instructions further include instructions for:

determining data indicative of a set of travel habits for a navigation device on each of the plurality of types of thoroughfares; and
storing the travel habit data in the memory.

35. (Original) The navigation system of claim 28, wherein the set of executable instructions further include instructions for regularly calculating a navigation device's current position.

36. (Original) The navigation system of claim 28, wherein the set of executable instructions further include instructions for dynamically providing the overlay screen in advance of the decision point based on a set of criteria, wherein the set of criteria includes any one or any combination of the following:

a classification of the thoroughfare on which the device is currently traveling;
a speed classification of the thoroughfare on which the device is currently traveling;

and

a speed at which the device is currently traveling.

37. (Original) The navigation system of claim 36, wherein the geographic detail includes geographic detail not shown on the presently displayed screen.

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38. (Original) The navigation system of claim 28, wherein the set of executable instructions further include instructions for dynamically providing the overlay screen when a navigation device is at the decision point.

39. (Original) The navigation system of claim 28, wherein the set of executable instructions further include instructions for:

dynamically providing the overlay screen wherein the geographic data in the overlay screen is static with the decision point centered in the overlay screen; and

dynamically displaying in the overlay screen a movement of a navigation device on a course through the decision point.

40. (Original) The navigation system of claim 28, wherein the set of executable instructions further include instructions for dynamically providing the overlay screen for a fixed amount of time.

41. (Original) The navigation system of claim 28, wherein the set of executable instructions further include instructions for dynamically providing an overlay screen containing geographic detail of any decision point along the route upon receiving a preview request signal.

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42. (Original) The navigation system of claim 28, wherein the set of executable instructions further include instructions for dynamically removing insignificant detail from the geographic detail at the decision point based on a set of criteria, wherein the set of criteria includes any one or any combination of the following:

whether a cartographic detail is a thoroughfare; and

whether a nearby thoroughfare in the cartographic data intersects with a thoroughfare on which the device is currently traveling.

43. (Currently Amended) An electronic navigational aid device with an automatic next turn page, comprising:

a processor;

a memory adapted to communicate to the processor, the memory having cartographic data and a route to a desired destination stored therein, the cartographic data including data indicative of thoroughfares of a plurality of types;

a display adapted to communicate with the processor and the memory and capable of displaying the cartographic data;

wherein the device processes travel along the route;

wherein the device provides to the display a presently displayed screen adapted to highlight at least a portion of the route and display motion of the device on the route; and

wherein the device recognizes when the device is approaching a decision point in the route and provides to the display an overlay screen on top of the presently displayed screen, such that at least a portion of the presently displayed screen remains visible, the

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overlay screen adapted to display a preview of the decision point, including a highlighted portion indicating a course to follow through the decision point, and the overlay screen displays motion of the device on the course through the decision point; and wherein the device is adapted to remove insignificant detail from the geographic detail at the decision point based on whether a nearby thoroughfare intersects with a thoroughfare on which the device is currently traveling.

44. (Previously Presented) The device of claim 43, wherein the overlay screen is provided at a magnified display scale in comparison to a display scale of the presently displayed screen, with the magnified display scale being dependent on a road classification for a thoroughfare on which the device is currently traveling.

45. (Previously Presented) The device of claim 43, wherein the device dynamically provides the overlay screen to the display in advance of the decision point based at least in part on a speed at which the device is currently travelling.

46. (Cancelled)

No new matter has been added as a result of these changes.